# 2600

SEPTEMBER, 1986

VOLUME THREE, NUMBER NINE

$2


# some facts on supervision

by The Kid & Co.

Answer supervision is the telco term for the signal sent back to indicate the call has been answered and billing should commence. Many alternate long distance carriers do not have this feature, so they start billing after a caller has been on a line for an arbitrary amount of time (usually 20-30 seconds). This grace period can be spent listening to a ring, busy signal, or even talking. Obviously, this method of billing can result in billing errors of great magnitude. Imagine what would happen if one chose to listen to a ring or busy signal for 3 hours. This problem was covered in detail in an article appearing in the November 1985 issue of *2600* on page 2-74.

There is a fair share of telephone numbers out there that are free to call i.e., they do not supervise. These should not be confused with 800 numbers, which *do* supervise, but carry no charge. Telephone company recordings and various "secret" numbers often don't supervise. Phones that are illegally hooked up to "black boxes" will defeat call supervision. The latter is impossible in an electronic switching system (ESS).

To determine if answer supervision signals are sent back by a particular number, one only needs a telephone connected to an ESS made by AT&T/Western Electric. This phone must also be able to access the call forwarding feature. First, attempt to forward your calls to the number to be tested. Make sure to use a carrier which returns supervision if you are calling long distance. If you don't use AT&T or a carrier which uses answer supervision, the results of the test will be inconclusive for the reasons discussed above and in the other article. The forwarding process will connect you to the number being tested for supervision. After the call has been "answered", hang up and dial your own phone number. If you get a busy signal then the call forwarding has been rejected because the number is unsupervised. Calls to that number are free when using a carrier which does return supervision. If you get connected to the number, then it is supervised. You have been billed for both calls and should make sure to unforward your calls.

This test is useful when compiling lists of test numbers that will be used throughout the country. It would be a real plus to see supervisory information on the lists already in circulation. During the research for this article we noted that equal access really is equal. I was surprised to find that both call forwarding and speed calling allow an optional 5-digit carrier access code to be specified. Therefore, it is possible to determine whether or not a long distance carrier returns true answer supervision. To test a carrier and obtain conclusive results, one should use the supervision test on the carrier using a known unsupervised phone number (a number that tested unsupervised using the above test with AT&T as the LD carrier) and a known supervised one (any home phone will do!). If the test using an alternate carrier does not return the same results as AT&T, then the carrier does not return proper supervisory information.

# RCI & DMS-100 BUGS

RCI, the Rochester, NY-based long distance company, is the only alternate carrier we could find that still has the infamous 202 bug. This bug prevails on corporate extenders (800 dial-tone numbers), but the long distance carriers as a rule have weeded it out.

Basically, the 202 bug is a hole in the network. 202 is the area code for Washington, DC, which is the only major city in the country where you do not have to dial a one before making a long distance call. Calls can be made by just dialing the area code followed by the number. This holds true for parts of other area codes (201, 914) and for all of at least one other area code (516), but Washington, DC is the only major *city* where this can be done and that's why the bug works there.

After accessing RCI (950-1003) and entering a valid authorization code, a caller can dial 202, then *another* area code and the first four digits of the seven digit number. Then, after pausing for about eight seconds, the caller can enter the remaining three digits and the call will go through. No bill is sent to the authorization code.

What the caller has done is route the call through RCI's phone lines in Washington, DC. The phone line there ordinarily looks for a seven digit number. But by entering the first seven digits of a ten digit long distance number, you have tricked the RCI computer into thinking you are making a call in the 202 area. The phone line dials those seven digits and "completes" the call, leaving you sitting in no man's land, just as you would be if you stopped dialing midway through from your own phone. It takes about eight seconds for the phone line to finish dialing what you told it to dial. It's sometimes possible to hear a little click as this phone line finishes dialing. Entering the three final digits allows the call to be completed through Washington, DC.

It's fairly obvious why this doesn't work in cities that require one's before area codes. If the RCI computer sees you dial 212-141-5xxx in an attempt to access San Francisco through New York City, it will say, "There is no way on earth an exchange in 212 can begin with a one" and you will hear an RCI error message to that effect. Dialing 202-415-xxxx in an attempt to do the same from Washington, DC will make the computer think you are trying to access the 415 exchange inside the 202 area code. That is why it attempts to place the call. It has not been told that 415 or any exchange (that is also an area code) is invalid in 202. It also gladly places calls to the 411 exchange (information) or the 911 exchange (police emergency) in *any area code where it has a phone line*. In these cases, four dummy digits have to be added after the exchange to convince the RCI computer that it's a real phone number. (RCI did at least remember to lock out the 950 exchange.)

If there were a major city inside the 516 area code, the bug would probably work there as well. Since there isn't, RCI does not lease lines in that area code. In all likelihood, all calls to 516 are routed through 212. As a result, there is no local phone line to take advantage of in 516.

*(continued on page 3-72)*

# Another Stinger Is Stung

Late last month, hackers uncovered another "sting" bulletin board system. In the past, such boards have been put up by the Secret Service and the FBI in an effort to catch people passing stolen credit card numbers and talking about "illegal" things. This time, though, it was different. This "sting" BBS was run by a TV station.

Mike Wendland of WDIV-TV in Detroit thought the board would be a good way to get background for a story on hackers. So, for six weeks he operated a BBS on John Maxfield's HP-2000 minicomputer. Maxfield has been after hackers for years—both as an FBI informant (see page 1-6) and a private consultant.

The board had virtually unlimited disk storage and a variety of phone lines. But it all began to crumble as an anonymous hacker figured out what the true purpose of the board was and who the operators were. Word spread quickly and the operators decided to "come clean" (see below).

Despite the threatening tone of WDIV's message below, Wendland says he will not turn any names in to the authorities, but he will do a story about the information that was posted. This will include credit card numbers, codes, passwords, etc. The purpose, he claims, is to "show that it [this kind of info] is still out there."

Wendland will do three stories, airing in mid-October. He will use handles in his report, not real names. He plans to talk about "how people profit at the expense of hackers.... Hackers are not bad guys, by and large," he says.

That's true: they're not. And, as far as we can tell, no actual crime was committed by any of the users. Yet their mailboxes were opened and the contents seized. But because it was all electronic, somehow it didn't constitute a violation of their privacy. In these days of curtailed freedoms, where magazines are pulled off shelves in 7-11's for everyone's good, where drug and lie detector tests are as "necessary" as spelling quizzes, where our numbers have become our names, it's more than a trifle unsettling that there is another moralistic set of eyes watching all of us, judging our words, misreading the facts. You come to expect this sort of thing from the government, but when a TV reporter begins to play cop, judge, and jury, it's time to say enough already.

```
Welcome to MIKE WENDLAND's I-TEAM sting board!
(computer services provided by BOARDSCAN)
6& Megabytes strong.

300/1200 baud - 24 hours.

Three (3) lines = no busy signals!
Rotary hunting on 313-534-0400.


Board:    General Information & BBS's
Message:  41
Title:    YOU'VE BEEN HAD!!!
To:       ALL
From:     MI TECH
Posted:   8/20/86 @ 12.00 hours

Greetings:
You are now on THE BOARD, a sting"
"sting" BBS operated by MIKE WENDLAND of the
WDIV-TV I-Team. The purpose? To demonstrate and document the extent of
criminal and potentially illegal hacking and telephone fraud activity by
the so-called "hacking community".
Thanks for your cooperation. In the past month and a half, we've
received all sorts of information from you implicating many of you
in credit card fraud, telephone billing fraud, vandalism and possible
break-ins to government or public safety computers. And the beauty of
this is we have your posts, your E-Mail and--- most importantly---- your
REAL names and addresses.
What are we going to do with it? Stay tuned to News 4. I plan a special
series of reports about our experiences with THE BOARD, which saw users
check in from coast-to-coast and Canada, users ranging in age from 12 to 40.
For our regular users, I have been known as High Tech, among other 10's.
John Maxfield of Boardscan served as our consultant and provided the
(MB) = more, any key = quit.)

HP2000 that this "sting" ran on. Through call forwarding and other
conveniences made possible by telephone technology, the BBS operated
remotely
here in the Detroit area.
When all our reports be ready" In a few weeks. We now will be contacting
many of you directly, talking with law enforcement and security agents from
credit card companies and the telephone services.
It should be a hell of a series. Thanks for your help.
And don't bother trying any harassment. Remember, we've got YOUR real
names....

Mike Wendland
The I-team
WDIV, Detroit, MI.

(CR) = more, any key = quit. >


Board:    General Information & BBS's
Message:  42
Title:    BOARDSCAN
To:       ALL
From:     THE REAPER
Posted:   8/20/86 @ 12.50 hours

This is John Maxfield of Boardscan. Welcome! Please address all letter
bombs to Mike Wendland at WDIV-TV Detroit. This board was his idea.

The Reaper (a.k.a. Cable Pair)

(CR) = more, any key = quit. )
```

ABC 2 | MNO 6 | OPER 0 | OPER 0

# FLASH

## NSA Drops DES

Source: Microcomputer

The US government will not recertify the Data Encryption Standard (DES), a standard code widely used by government agencies and industry to protect sensitive computer data, when it is reviewed in 1988. Harold Daniels, deputy director of information security for the National Security Agency [a man you all ought to know,] says, "The use of the DES algorithm has spread to sensitive applications, which has made it an increasingly attractive target for our adversaries. Therefore, we have determined that it is in the US interest to introduce new cryptographic algorithms."

The policy will cause some confusion among computer users, who may hesitate to budget for new security equipment pending the government's action.

## Hackers On Shortwave

Data Channel Gazette

A Seattle ham radio operator and computer enthusiast is calling on the Federal Communications Commission to set aside a small portion of the shortwave band for microcomputer users.

The Seattle ham is proposing a packet-switching public digital radio service (PDRS). He calls it a "high-speed digital radio highway" for computer hobbyists.

Donald Stoner proposes that a portion of the amateur radio bandwidth (52-54 MHz) be set aside for the PDRS. Key to the PDRS would be the development of "smart" transceivers, which would act as network access devices, mail-boxes, and modems. These limited radio transceivers would operate at all times, acting as the equivalent of nodes in conventional packet networks. As such, they would constantly monitor the airwaves for packets addressed to them or for packets they could pass on.

## BB Traffic Cop

Global Press International

Galveston County, Texas, constables are using a combination radar unit, computer, and camera that automatically photographs motorists driving more than 10 miles per hour above the speed limit. The photograph includes the car's license plate, the driver's face, and the date, time, and speed.

The motorist later receives a violation notice in the mail, and, if they wish, they can see the actual photo.

The equipment can be set on automatic to operate on its own while placed along a highway.

In all, 1,200 speeders have been photographed since May, more than all those tickered last year by police in the precinct, where it is being tested.

## Crosstalk Saves Old Lady

Lower Pine Tree Gazette

A 67-year-old woman who fell and broke her hip quietly begged for help into a dangling telephone receiver for two days until someone heard her.

Her only telephone is located on a table in her kitchen. When she reached it to dial the operator, she fell again, pulling the phone to the floor. It landed a few feet away, but she said she was unable to raise her shoulders or arms to retrieve it.

She could hear a crackling noise through the receiver, however, and began to call out for the operator.

More than 48 hours later, a neighbor picked up her phone and heard a dim voice crying, "I need help." The neighbor then went door to door looking for the source of the anonymous voice. Phone company officials called the "cross talk" a freak occurrence.

## Indian Phones Under Siege

Combined Sites Gazette

More than 1,000 telephone operators quit work in New Delhi, India to protest unanswered demands that police arrest a politician who stormed the phone company and ordered operators to place his call to Bombay.

Since long-distance calling from New Delhi was virtually impossible, the Indian army took over the central telephone exchange and began evicting the strikers.

They were demanding the prosecution of Prakash Chand Sethi, a former home minister and member of the ruling Congress Party in Parliament. They said Sethi burst into a section of the main domestic long-distance booking exchange waving a pistol and demanding to know why his call to Bombay had not been put through.

Sethi denied he had threatened or attacked anyone and said he was manhandled by an officer of the operator's union.

"They were shouting and advancing toward me," he said. "I was only asking why they did not connect my call. It is my right as a customer. This is the worst telephone system in the world."

## "Signature" On Video Transmitters

The PSA Digital Engineer

The Federal Communications Commission proposed a system that would make it easier to find future Captain Midnights.

The FCC proposed a rule requiring that all satellite video transmitters have a special "signature," so individual signals could be identified quickly.

As you should know, Captain Midnight used an earth station to override a Home Box Office cable signal and insert his own message. FCC investigators only closed in on him because of an unusual pattern generated by the color bars he used on his transmission.

The proposed rule would require the "signature" to be present on all transmissions after December 31, 1987.

Commissioners also discussed whether there should be automatic transmitter identification systems for some radio operators.

## FBI Shopping List

Telecom

The FBI announced that it is planning to buy more than 8,000 desktop and portable computers for use in a wide range of activities.

The FBI has asked vendors to prepare bids for the personal computers, which must meet the government's Tempest specification for securing the machines from unauthorized surveillance.

According to the FBI bid request, the machines must have the following amazing characteristics: The portables must fit in a briefcase and weigh less than 25 pounds, and have built-in modems. The vendors must allow the FBI to look at future products, and will sign a non-disclosure agreement, to verify that the machines will be able to run software on a 32-bit chip, such as the Intel 80386. Vendors must supply Rbase 5000 or 6000 with Cloud, which is described as the FBI's "baseline" database management system. They must supply a spread sheet, a word processing package, an accounting system, as well as Pascal, C, Prolog, LISP, and Assembler.

The chosen system will gradually replace dumb terminals currently being used.

[Ahem.]

## Poor Connection Starts Bomb Scare

New York Times

Perhaps it was the pitch of the caller's voice. Perhaps it was the static. But something made the friend on the ground think that Flight 740 had a bomb on board.

The woman on the plane had made a call to her friend in Florida using a new air-to-ground telephone, but there was a lot of static. "There is a problem with the phone," she said. The friend, however, thought she had said there was a bomb on the plane and told her husband. The husband called the airline, the airline called the pilot, and when the plane arrived at La Guardia Airport in New York, it was directed to a remote corner of the airfield and a waiting squad of anxious police officers.

The woman who made the call was removed from the plane and taken to police headquarters at the airport. The police checked witnesses on the plane as well as the friend and her husband in Florida and then apologized to the caller for the inconvenience.

# LETTERS & NUMBERS

**Dear *2600*:**

In response to PV's letter in the June 1986 issue, the Captain Midnight case didn't involve exotic equipment, just proper technique. From what the FCC can determine, all Captain Midnight did was to broadcast onto the satellite transponder used by HBO. By using a more powerful and better aimed signal than HBO, the Captain merely overrode the signal being sent by HBO to the downlink channel. The downlink channel is the channel that cable companies all over the nation use to receive HBO. When HBO determined that it was being overpowered (almost immediately), they merely boosted power. In fact, "snow flakes" could be seen for a half hour as Captain Midnight and HBO fought for control of the satellite.

About the scramblers on downlink HBO receivers – they default to the pass-through mode when a clear (unscrambled) transmission is received. Thus Captain Midnight didn't have to encrypt his signal to have it seen by subscribers.

From the FCC investigation, they think that Captain Midnight is northwest of Houston, Texas. They probably won't discover much more than this, unless the Captain starts bragging, as it takes time to do an exact triangulation. Taking control of a satellite uplink as Captain Midnight did doesn't require much sophisticated equipment. All an uplink uses is a microwave signal, and the proper aim with the right equipment (not too difficult to obtain) would allow one to emulate the Captain. Surprising that it hasn't happened sooner.

**Lord Phreaker**

**Dear LP:**

*As most of the conscious world already knows, Captain Midnight has been found. (This letter was received before that happened.) He was in Florida as it turned out, but it sure was interesting how everyone seemed to think he was in Texas—probably a trick by the feds.*

*Official ground stations have unique information contained within their signals, and the lettering used in the message narrowed the search even further. But generic equipment has no such information and frankly, we are very surprised at how easy interception and control of the various services seems to be. Anyone with a receiving dish can modify their equipment to for under $1000. If they know what signals to send and where to send them, complete pandemonium is theirs. We're very surprised that more incidents haven't been occurring.*

*We do want to know more about satellites—it's one of the topics we're expanding into. We have added a satellite subboard to The Private Sector (2013664431) and we welcome any information any of our readers can contribute.*

**Dear *2600*:**

Am interested in telephone company rip-off of its subscribers and the PSC telephone-oriented membership. Your details on the workings are enlightening. Up-date on some numbers are needed.

Want details on annoyance bureau. They are a joke. With all the instruments you mention they claim they cannot give you the numbers calling you.

How do you get the CN/A operator for unlisted numbers without computer?

What is ESS01A processor 69 which identifies caller?

How about the abbreviations and full names with descriptions of how they work?

What is PREFIX?

Write about the new privately owned street phones and their visible message.

**TCCFBT**

**Dear TCCFBT:**

*It sounds like you picked the right magazine. We update info as we get info, so keep reading.*

*Some areas are experimenting with number identification—knowing who's calling you before you pick up. This is already in place within major corporations and institutions; it's only a matter of time before every call is identified.*

*The best way to get a CN/A for an unlisted number is to call it, then ask your local business office why that number showed up on your bill. They'll cheerily tell you all about it.*

*PREFIX is, if we understand your question, the three digits before the dash in your phone number. Our phone number is (516) 751-2600. Our prefix is 751. Our area code, or NPA, is 516, and our extension is 2600.*

*We hope readers will send reviews of new pay phones that show up in their area. Some of them really rip you off—others let you get away with murder. Be careful though—if you're playing with one of those phones, odds are that the person who owns it is in the same room!*

**Dear *2600*:**

I have recently gained several numbers in several different prefixes in my area that get a strange response. I have looked around, and found a few references to a few of those numbers, callling them SL-1 Switches. What can you tell me about these, if anything?

**Joshua Falkon**

**Dear JF:**

*SL-1 is a phone system put out by Northern Telecom. It's starting to get old and outdated and many of its users are dissatisfied with it. You didn't tell us if the strange responses you're receiving are voice or data lines. Either way, it's something internal to the system and the potential for abuse and manipulation certainly exists.*

**Dear *2600*:**

I would like to open by saying how much I enjoy your newsletter. More people should take a stand and publish what they think is right, as you folks do. Keep up the good work!

I am curious about the rules regarding cancellation of charges for long distance calls to a wrong number. In the past, when a call has not gone through correctly, I've called the AT&T operator immediately and she has cancelled the charges. By what criterion do they judge whether or not the call was in fact a wrong number? Is it duration of the call? Do they verify that you actually do place a call to the 'correct' number after reporting the error? All this is prompted by the numerous times I place long distance calls and end up leaving the same message on the same answering machine when awaiting a friend to get home.

**Thanks!**

**Friends in faraway places**

**Dear Friends:**

*We assume they take a good look at how many requests for credit you make. If you make more than a couple, especially to the same number, they will certainly begin asking questions. It's a great way to get even with people—just make hundreds of requests of credit to their number! (We do NOT endorse this!)*

*Hopefully, our AT&T friends will write to us with the exact procedure when credit is given.*

**Dear *2600*:**

I have heard that Dimension and Horizon PBXs can be remotely accessed through diagnostic/maintenance ports, and

*(continued on page 3-72)*

# The 2600 Information Bureau

INTERESTING NUMBERS OF WINNIPEG

```
222-1000 BROKEN RINGING (CONTINOUS)
222-1111 TEST # FOR MTS
233-7417
261-1181 BATTERY SWITCH  (MTS TESTING)
261-1191 SILENT TERMINATION  (MTS TESTING)
269-3315 U of M MAINFRAME (1200 BAUD)
269-3316 U of M MAINFRAME (1200 BAUD)
269-3317 U of M MAINFRAME (1200 BAUD)
269-3318 U of M MAINFRAME (1200 BAUD)
269-3319 U of M MAINFRAME (1200 BAUD)
269-6590
269-9910 U of M MAINFRAME
284-0106 OVL111 45 BKOD
284-9999 NO RINGING, JUST HIGH PITCHED TONE (CONSTANT)
474-2389 SL-1 SWITCH
474-1109 DMS-1 (MTS)
475-0368
475-0460 '*'
475-0616
475-0645 RSX-11M (R.C.M.P / MTS?)
475-1117 SL-1 SWITCH
475-1391 SL-1 SWITCH
475-1490 DATAPAC (2400 BAUD) (SYNC.)
475-1491 DATAPAC (2400 BAUD) (SYNC.
475-1561
475-1657
475-1688
475-1794 MACLEOD STEDMANS DATA ENTERY SYSTEM. (Touch Tone)
475-2007 DATAPAC
475-2008 DATAPAC
475-2009 DATAPAC
475-2034 DATAPAC
475-2035 DATAPAC
475-2036 DATAPAC
475-2071 DATAPAC
475-2072 DATAPAC
475-2073 DATAPAC
475-2074 DATAPAC
475-4601 SL-1 SWITCH
475-4700 TONE FOR ONE SECOND (WARBLE TO TONE)
475-5659 CONTINOUS RING
475-5782 OVL111 45 BKOD
475-6162
475-6205 SL-1 SWITCH
475-7195
475-7024
475-8663 STRANGE TONE (CHANGES OCTAVE)
475-8990
475-9000 TONE FOR ONE SECOND
475-9190 MULTICS BELL CANADA MONTREAL (MULTI-TRONICS)
475-9191 MULTICS BELL CANADA MONTREAL (MULTI-TRONICS)
475-9321 CONTINOUS RING
475-9347 TONE FOR ONE SECOND
475-9378 TONE FOR ONE SECOND
475-9389 TONE FOR ONE SECOND
475-9470
475-9471
475-9472
475-9473
475-9474
475-9475
475-9482 TONE FOR ONE SECOND
475-9551 '*'
475-9770 TESHMONT CONSULTANTS INC. VAX 11/750
622-4101 RING BACK (SOME AREAS ONLY!)
622-4411 RING BACK (SOME AREAS ONLY!)
632-2429 RED RIVER - TRS-XENIX 68000 OPERATING SYSTEM
644-1212 AUTOMATIC NUMBER IDENTIFIER (ANI)
644-1221 AUTOMATIC NUMBER IDENTIFIER (ANI)
644-4412 AUTOMATIC NUMBER IDENTIFIER (ANI)
661-8321
667-0895 (TONE, BUT NOT A CARRIER)
667-1111 (TONE, BUT NOT A CARRIER)
668-6647 TONE FOR ONE SECOND (WARBLE TO TONE)
669-1973
775-7005 ETERNAL BUSY (HOT LINE)
832-8320 NO RING, JUST OFF-HOOK TONE
885-3040
888-0000 OVL111 45 BKOD
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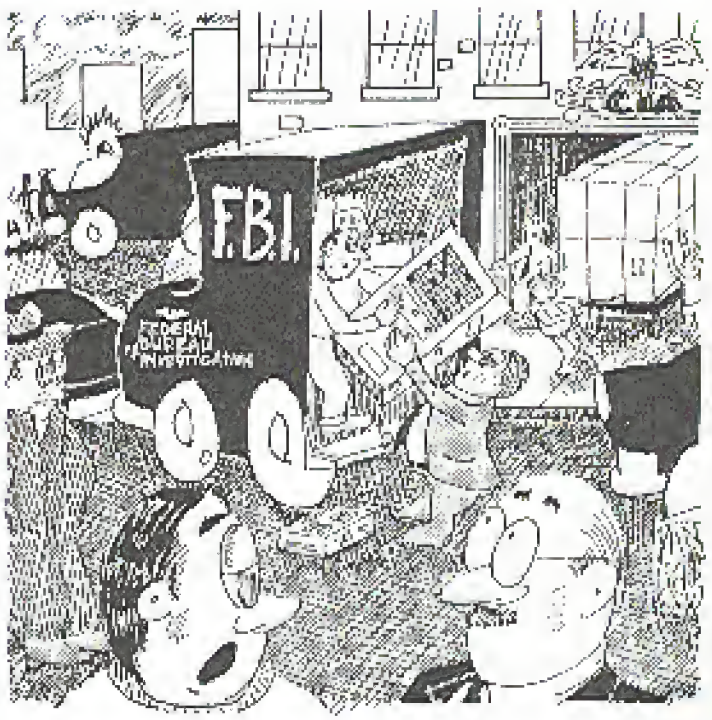


*"I don't care if you're the CIA or the Legion of Doom! There's a hacker in there somewhere and we intend to find him!"*

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000-4561 MTS COMPUTER INFORMATION SERVICE (CIS) (1200 BAUD)
000-4020 MTS COMPUTER INFORMATION SERVICE (CIS) (1200 BAUD)
888-9201 U of W VAX-1 (300/1200 BAUD)
888-9205
909-2294 UNKNOWN, BUT SEEMS TO BE WAITING FOR SOMETHING
909-9511
924-3001 MNEMONIC/OVL111 45 BKGD
924-3002 OVL111 45 BKGD
924-3005 STRANGE TONE, TONE IS LOWER THAN A CARRIER
924-3007 CYBERSHARE
924-3009
924-3010 INFOMART WINNIPEG (1200 BAUD)
924-3011 GIVES NO ID, JUST ASKS FOR NAME & PASSWORD
924-3012
924-3014 HP 3000  (PRA CIERR 1402)
924-3015 U of M COMPUTER SCIENCE.
924-3017 U of M COMPUTER SCIENCE.
924-3021 RED RIVER MAINFRAME (1200 BAUD)
924-3022 RED RIVER MAINFRAME
924-3023 RUN ON A BURROUGHS COMPUTER
924-3024 TONE LOWER THAN CARRIER, LOWERS ONE OCTAVE
924-3025
924-3026 HP 3000
924-3031 300 BAUD, BUT NO RESPONSE
924-3032 CANADIAN AIRCRAFT ENGINEERING COMPUTING FACILITY
924-3033
924-3036
924-3037 STRANGE RESPONSE AT 300 BAUD
924-3039 RSTS - RELIANCE DISTRIBUTERS (1200 BAUD)
924-3044 HP 3000
924-3045 LOW TONE FOR ONE SECOND
924-3047
924-3049 LOW TONE FOR THREE SECONDS
924-3050 300 BAUD, BUT NO RESPONSE
924-3051 RSTS - VIDEON
924-3057 HP 3000
924-3058 HP 3000
924-3062 NPD, REAL ESTATE
924-3067 'L''
924-3068 LOW TONE FOR ONE SECOND
924-3071 TONE FOR ONE SECOND
924-3072 CASH-EX PAYMENT SERVICE TUTORIAL (TOUCH TONE)
924-3073 CASH-EX PAYMENT SERVICE TUTORIAL (ROTARY)
924-3074 TONE FOR ONE SECOND, FOLLOWED BY SHORT BEEP
924-3075 GIVES NO ID, JUST ASKS FOR NAME & PASSWORD
924-3077
924-3080 TONE FOR ONE SECOND, FOLLOWED BY SHORT BEEP
924-3081 CASH-EX PAYMENT SERVICE (TOUCH TONE)
924-3082 CASH-EX PAYMENT SERVICE (TOUCH TONE)
924-3083
924-3089 CASH-EX PAYMENT SERVICE TUTORIAL (TOUCH TONE)
924-3090 CASH-EX PAYMENT SERVICE (TOUCH TONE)
924-3091 CASH-EX PAYMENT SERVICE (TOUCH TONE)
924-3092 CASH-EX PAYMENT SERVICE (TOUCH TONE)
924-3093 CASH-EX PAYMENT SERVICE (TOUCH TONE)
924-3096
924-3097
924-3099
924-3100
924-3101
924-3102
924-3114
924-3115
924-3116
924-3117
924-3118 HP 3000 (PRA CIERR 1402)
924-3137
924-3138 RED RIVER MAINFRAME
924-3141 U of M COMPUTER SCIENCE.
924-3142 U of M COMPUTER SCIENCE.
924-3143 U of M COMPUTER SCIENCE.
924-3144 CANADIAN AIRCRAFT ENGINEERING COMPUTING FACILITY
924-3149
924-3153
924-3155
924-3157 CANADIAN AIRCRAFT ENGINEERING COMPUTING FACILITY
924-3158 CANADIAN AIRCRAFT ENGINEERING COMPUTING FACILITY
924-3159 CANADIAN AIRCRAFT ENGINEERING COMPUTING FACILITY
931-1074 PULSED-TONE FOR TWO SECONDS
941-2394 SL-1 SWITCH
941-2995 SL-1 SWITCH
943-0010
943-0013
943-0032
943-0042 INTER-CITY GAS
943-0044
943-0049
943-0051 DATAPAC (1200 BAUD)
943-0056 DATAPAC (1200 BAUD)
943-0072 DATAPAC (1200 BAUD)
943-0087 DATAPAC (1200 BAUD)
943-0090 DATAPAC (1200 BAUD)
943-0097 DATAPAC (1200 BAUD)
943-0098 DATAPAC (1200 BAUD)
943-0113 DATAPAC (1200 BAUD)
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943-0135 DATAPAC (1200 BAUD)
943-0147 DATAPAC (1200 BAUD)
943-0720 AIR CANADA PORT 19
943-0897
943-1371 HP 3000 (PRA CIERR 1402)
943-1488 DATAPAC (1200 BAUD)
943-1715 HP 3000 (PRA CIERR 1402)
943-1856 HP 3000 (PRA CIERR 1402)
943-1930
943-2282 C N TRACS MTL
943-2297
943-2299
943-2386 OVL111 45 BKGD
943-2438
943-2464
943-2465
943-2470
943-2475
943-2499
943-2895
943-2926 OVL111 45 BKGD
943-4782
943-4814 TONE FOR ONE SECOND
943-5236
943-5500
943-5501
943-5520
943-5593 OVL111 45 BKGD
943-5714 SL-1 SWITCH
943-5856 SL-1 SWITCH
943-6256 SL-1 SWITCH
943-6289
943-6322
943-6340
943-6353
943-6354
943-6360
943-6376 OVL111 45 BKGD
943-6397
943-6443
943-6464
943-6485
943-6486
943-6633
943-6634
943-6791
943-6824 (STRANGE RESPONSE AT 300 BAUD)
943-7219 OVL111 45 BKGD
943-7404
943-7405
943-7530 TONE FOR ONE SECOND
943-7533 TONE FOR ONE SECOND
943-7542
943-8900
943-9178
943-9186 HP 3000 (PRA CIERR 1402)
943-9930 SL-1 SWITCH
943-9998
944-0011 TELETYPE???
944-1041
944-9002 HELLO CENTRAL (TOUCH TONE)
947-0099
947-0193
947-0199
947-0260 OVL111 45 BKGD
947-0290 MNEMONIC/OVL111 45 BKGD
947-0408
947-9287 OVL111 45 BKGD
947-9626 SL-1 SWITCH
947-9654
947-9665
947-9711
947-9715 SL-1 SWITCH
947-9744
947-9746 HIGH TONE FOR 3 SECS, THEN CHANGES TO LOW TONE
947-9754
947-9767
947-9821 MNEMONIC/OVL111 45 BKGD
947-9864 DONTEX HPO (CTRL-E)
947-9865 SL-1 SWITCH
947-9879
947-9890
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947-9939 TONE FOR ONE SECOND
947-9940 DM248 VER 54
947-9942 SL-1 SWITCH
947-9977
949-1564 PAGER COMPANY
956-0404
957-1829 U of W VAX-2 (300/1200 BAUD)
```

# SYSTEMATICALLY SPEAKING

## GTE Sprint Overbills

Communications Week

After a $20 million underbilling error earlier this year, a second programming mistake by GTE Sprint has led to approximately $75 million worth of calls being incorrectly billed.

The second error was caused by GTE Sprint's failure to adjust the clocks in its switches to account for the change from daylight standard to daylight savings time on April 27. Between April 27 and the time the error was detected on May 15, customers were over-charged for late-afternoon calls, because the switches thought that they were still calling at the normally expensive day-time rate. GTE Sprint has since merged with US Telecom to create US Sprint.

US Sprint could not confirm the dollar amount of the mistake, saying only that the error had been corrected and all bills are being recut.

Earlier this year, Sprint suffered a reported $10 million to $20 million loss when 10 of the company's 58 switches were not programmed to record and bill long distance calls. That blunder went unnoticed by the company for more than two months.

## FCC Gives Away "Resource"

The Wall Street Journal

The Federal Communications Commission has dealt a blow to a proposed total satellite communications system in the U.S., denying it certain radio frequencies. At the same time the agency set aside some of those radio frequencies for possible use by a similar Canadian system.

"They kicked domestic people in the teeth," said Edwin Hopper, president of a McCaw Communications subsidiary that has applied to build the satellite system.

The FCC has provided frequencies in the L-band. The effect of the different assignment is enormous. The UHF frequencies are also used for cellular telephones and two-way radios, and, with some modification, could communicate with a Mobilesat system. The L-band currently isn't used in the U.S.; it is reserved for future air-traffic control satellites. As a result, none of the current cellular telephones or other mobile radios could communicate with an L-band Mobilesat system.

The FCC also earmarked a small portion of the UHF frequency to an experimental mobile-communications system, in which an entrepreneur, rather than the government, would determine how the system would be used.

The chairman of the FCC, Mark Fowler, also made a plea to Congress for the authority to auction off this frequency. The agency now selects applications by lengthy hearings or by lottery.

"It's a national disgrace to give away this extraordinarily valuable resource—spectrum," Mr. Fowler said.

## AT&T Best For Hackers

USA Today

A study by Data Communications magazine examined long-distance carriers from the point of view of transmitting data. They found: AT&T almost always sets up a modem-to-modem call faster than its competitors. Average connect times were: 10.1 seconds—AT&T, 16.6 seconds—Western Union, 17.2—MCI, 17.3—Allnet, 17.9—ITT, and 18.3—Sprint.

90% of the time, AT&T sets up a good connection the first try. Allnet was the worst at 38%.

## Portable VAXes!!!

PC Week

Hackers can now practice their craft anywhere, even on their own VAX.

Digital Equipment Corporation is working on a $7,000 portable MicroVAX that will support as many as 10 users.

The briefcase-size computer, called DEC-Star, is already available as a prototype. Based on a chip version of DEC's 32-bit VAX 780 processor, the machine weighs less than 15 pounds and incorporates communications interfaces and a built-in modem. It will run both VMS and possibly an Ultrix-32m, a DEC version of AT&T's Unix operating system, according to sources who have been briefed by DEC representatives.

## Computer Clothing

Infoworld

Very soon, you will be seeing through computer glasses that allow you to see 3-D on your computer monitor, and you'll be wearing computer gloves that allow you to hold this image.

Antic Software said it will be introducing glasses, sold with CAD-3D, a $50 solid modeling program currently available for the Atari ST. The heart of the system is a pair of glasses that are covered by a liquid crystal shutter (LCS). The glasses are linked to the Atari ST, which will display two slightly different images one-sixtieth of a second apart. At the same time, LCSs on both lenses will open and close rapidly, synchronized to the 60-times-per-second rate.

"Normally, your eyes see two different views about three inches apart," said Tom Hudson, designer of the CAD program. "The glasses simulate the same thing, to give the viewer the perception of depth on the monitor."

A glove has been designed that will sense most common hand movements. VPL Research of Palo Alto, California, recently announced the glove, which can be hooked to a microcomputer. The glove can be used in place of cursor keys, mice, or touch-screen devices.

It will soon be available for owners of Commodore 64 systems.

Sensors in front of the computer and in the glove sense where the user's hand is in three-dimensional space, as well as the tilt of the hand and whether the fingers are bent or straight.

"You can handle objects shown on the computer screen much as if they were physically real," Jaron Lanier, founder of VPL, said. He demonstrated how it allows humans to "grab" a computer image of a bouncing ball in mid-flight.

## Message On the Move

Communications Week

When customers of General Telephone of Florida move, people who dial their old number are greeted by a new service that not only gives out new numbers, but can also relay additional information for businesses, such as the company's business hours or advertisements.

"Message on the Move" works like this: the operator alerts the caller to the change in the phone number, just as the conventional recorded message would do. But operators also give the caller the company's new address and business hours. For an extra charge (to the company that moved) the operator will also read an advertising message.

The service is one of four introduced by the independent company. Other services give out names and full addresses to callers who provide phone numbers; restrict calling from certain phones; and provide local WATS service.

[Readers, does this mean there are CNA's for regular people?]

## Call Rejection In Natchez

USA Today

Call Rejection is being tested by South Central Bell in Natchez, Missouri.

It allows one to keep up to six phone numbers from ringing you. You program the numbers into your phone (using touch-tones) and add a message (speaking into the receiver) that will tell those callers that their calls are not welcome.

The year-long test recently started and has a $2 monthly charge.

Other services that will be tested are: Call tracing—tells phone company computers what number last called you. Selective call forwarding—sends six selected numbers to another number. Distinctive alert—gives a unique ring when any of six numbers is calling.

[Of course, this should encourage the use of pay-phones for illicit purposes.]

## LETTERS & NUMBERS *(continued from page 3-68)*

by issuing the proper commands, you can cause a phone to ring up a second number everytime a user makes an outgoing call. I've also heard that the proper command can remotely activate a phone's "hands-off" or intercom feature. Are these rumors true, and if so, how do you do it?

**Curious**

**Dear Curious:**

*These PBX's are software-driven, and everything can be controlled by typing at a keyboard. Any feature of the system can be activated or disabled in this way. All you need is the access.*

**Dear 2600:**

Are there any phone phreaks out there who deal with phone numbers that spell weird things?

I first got into this when at my last job I was told that my phone number was 602-TOY-DOGS. All my friends thought it was the greatest. And easy to remember.

Then I found other interesting numbers in the central Phoenix phone exchange. For example, 602-ASS-HOLE—it belongs to the Fish Market Restaurant in central Phoenix. I don't know if they serve good food, but they sure have a neat phone number.

I tried 602-AIR-HEAD. After I informed the person answering of what his phone number spelled, he called me a DICK HEAD. What a jerk! 602-APE-SHIT was busy or not answered every time I called.

602-EAT-SHIT is a phone in Yuma, Arizona that beeps when you call it. Then I tried the great American bird number 602-FUCK-YOU. However, that prefix doesn't exist in the 602 area code. Rats! What a number!

And if my phone was TOY-DOGS, I had to try 602-TOY-CATS. It's purchasing at INTEL. And for all you zealots that don't like the four-letter words in this letter, you probably should have the phone 602-CRY-BABY.

**Captain Zorg Moscow Police**

# BUGS *(continued from page 3-65)*

RCI is one of the smaller companies and cannot be accessed from most parts of the country. Odds are, however, that the country is full of small long distance companies that haven't gotten around to fixing this bug. Let us know if you find one.

**Northern Telecom**

If you're lucky enough to have a Northern Telecom DMS-100 as your local switch, you'd better be careful. These switches are electronic switching systems and they allow all the standard features like call forwarding, call waiting, etc. One way to tell if you have a DMS-100 on your end is to listen for MF tones every time you place a call outside your local calling area. If you hear a rapid series of tones immediately after you dial the number and it happens consistently, that's a DMS-100. They call it "the sound of our technology at work". We call it not bothering to filter out the tones.

You can tell if the exchange you are calling is on a DMS-100 by dialing a number that is out of service. If you hear a series of MF tones right before the recording or if you hear a ring right before the recording, odds are the switch is a DMS-100.

The bug is simple. If you decide to put call forwarding on your line and forward all of your calls to another number and you are in a DMS-100, something unpleasant will happen. Callers will be able to know they are being forwarded because they will hear the unfiltered MF tones when the call forwarding kicks in. But that's not all. Each MF tone represents a number. If the caller has a way of figuring out which tones are what (not a difficult task), he or she will be able to find out the phone number they are being forwarded to, no matter how unlisted it may be. So much for Northern Telecom and their "technology at work".

**Dear CZMP:**

*We really got a kick out of this letter. We'd like to see a whole new hobby start here, only with 800 numbers that spell strange things. Imagine how red-faced a company would get if they realized their toll-free number was 800-RIP-OFF or something similar? About the best we could find was 800-CAT-PISS. It's a travel service/credit-card center. Send us more!*

**Dear 2600:**

Recently I had to get a friend's number and address, so I called 1-813-555-1212. I asked for the phone number and street address. The operator told me that I could have the number, but not the address. They said I would have to call 1-813-270-8711. So I did. The operator gets on and says, "Customer Name and Address". So I give her the number and she gives me the street number. Now this is at 2:30 in the morning. Most CN/A numbers are only open 8:30-4:30. Weird. When I talked to my friend, he told me this is new. There is a 75 cent charge to get street numbers in Florida. What next?

**Hal-9000/Beast 666**

**Dear Hal:**

*This service is starting to pop up in various places. We tried your number and weren't able to get through. Perhaps it only works from certain places. See page 3-71 of this issue for an article on this.*

*Attention readers: a couple of issues back, we printed a typo error that appears on all Visa cards (page 3-56). Well, there were actually two of them in the same picture. See if you can find the other one. Also, some cards have the typo in different places, but they all have them somewhere.*

*There was a misprint in last month's UNIX article. There is a line in the C program that refers to "hubcap". This should actually be the name of the machine which the user who is attempting to run this program is on. The name of the system can be obtained by typing the UNIX command UNAME. We can't imagine how this error got by us.*


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1-800-307-2687
1-800-397-6440 VISA VERIFICATION
1-800-563-8264 DATAPAC INFORMATION
1-800-665-0382 DRASSROOTS
1-800-824-0274 (UNKNOWN COMPANY, JUST ASKS FOR PASSWORD)
```